

IN THE CLAIMS

Please cancel claims 18-34 as follows:

1. (PREVIOUSLY PRESENTED) A network comprising: a first network node having a first transponder for receiving and transmitting communications signals, said first network node further comprising a first receiver for receiving position signals from a plurality of navigation beacons; and, a second network node having a second transponder for receiving and transmitting said communications signals, said second network node further comprising a second receiver for receiving position signals from a plurality of navigation beacons, wherein each of said first and second receivers further include local code generators that are also used as transmitter code generators for said first and second transponders wherein each of the local code generators generates a unique transmitter code such that the first transponder transmits a different code than the second transponder regardless of position of the first transponder and the second transponder.
2. (ORIGINAL) The network of claim 1, wherein a signal modulation process of said first and second network nodes is reciprocal to a signal demodulation process for said first and second network nodes.
3. (ORIGINAL) The network of claim 2, wherein said signal modulation process and signal demodulation process are based on modulo-2 addition.
4. (ORIGINAL) The network of claim 1, wherein said communication signals are generated by direct conversation using binary phase shift keying.
5. (ORIGINAL) The network of claim 1, wherein said first and second receivers are direct sequence spread spectrum positioning receivers.

6. (ORIGINAL) The network of claim 5, wherein said first and second receivers use correlators and pseudo random number (PRN) code tracking loops for synchronization, and wherein signals from said correlators and PRN code tracking loops are inputted to a complimentary code keying (CCK) modulator to generate said communication signals.

7. (ORIGINAL) The network of claim 6, wherein the signals from said correlators and PRN code tracking loops are combined and summed to provide a CCK signal.

8. (ORIGINAL) The network of claim 7, wherein said CCK signal is up-converted to change a frequency of the CCK signal to match a frequency of said communication signals.

9. (ORIGINAL) The network of claim 1 wherein said first and second network nodes are addressable using one or more spatial parameters which include at least one of a position parameter and a velocity parameter.

10. (ORIGINAL) The network of claim 1, wherein said first and second network node contain a topology of the network, said topology to be updated in response to network topology changes.

11. (ORIGINAL) The network of claim 1, further comprising a master transmitter that sets the basic frequency and phase of said network and said first and second network nodes.

12. (ORIGINAL) The network of claim 1, further comprising a plurality of navigation beacons which transmit position signals to said first and second network nodes.

13. (ORIGINAL) The network of claim 12, wherein said communication signals are synchronized to said position signals.

14. (ORIGINAL) The network of claim 12, wherein said communication signals are used as ranging signals for other network nodes, said other network nodes to determine signal propagation time using signal time tagging.

15. (ORIGINAL) The network of claim 12, wherein said communication signals substitute for said position signals in determining network node position information.

16. (ORIGINAL) The network of claim 15, wherein said communication signals are used to provide frequency and signal phase assistance in the determination of node position information.

17. (ORIGINAL) The network of claim 16, wherein said frequency and signal phase assistance is used by said first network node to detect attenuated positioning signals from said plurality of navigation beacons.

18-34. (CANCELED)

35. (PREVIOUSLY PRESENTED) A method comprising:  
transmitting communication signals from a first network node to a second network node, said first and second network nodes to comprise a network and to each include a receiver portion and a transponder portion;  
receiving, by said first and second network nodes, position signals from a plurality of navigation beacons; and  
generating transmitter codes for said transponder portions using local code generators of said receiver portions, wherein each of the local code generators generates a unique transmitter code such that the first network node transmits a different code than the second network node regardless of position of the first network node and the second network node.

36. (ORIGINAL) The method of claim 35, further comprising: performing, by said first and second network nodes, a signal modulation process; and performing, by said first and second network nodes, a signal demodulation process, wherein said signal modulation process is reciprocal to said signal demodulation process.

37. (ORIGINAL) The method of claim 36, wherein said signal modulation process and signal demodulation process are based on modulo-2 addition.

38. (ORIGINAL) The method of claim 35, further comprising generating said communication signals by direct conversation using binary phase shift keying.

39. (ORIGINAL) The method of claim 35, wherein said receiver portions for said first and second network nodes are direct sequence spread spectrum positioning receivers.

40. (ORIGINAL) The method of claim 39, further comprising: using, by said receiver portions, correlators and pseudo random number (PRN) code tracking loops for synchronization; and, inputted, to a complimentary code keying (CCK) modulator, signals from said correlators and PRN code tracking loops to generate said communication signals.

41. (ORIGINAL) The method of claim 40, further comprising combining and summing the signals from said correlators and PRN code tracking loops to provide a CCK signal.

42. (ORIGINAL) The method of claim 41, further comprising up-converting said CCK signal to change a frequency of the CCK signal to match a frequency of said communication signals.

43. (ORIGINAL) The method of claim 35, further comprising addressing said first and second network nodes using one or more spatial parameters which include at least one of a position parameter and a velocity parameter.

44. (ORIGINAL) The method of claim 35, wherein said first and second network node contain a topology of the network, said topology to be updated in response to network topology changes.

45. (ORIGINAL) The method of claim 35, further comprising setting a basic frequency and phase of said network and said first and second network nodes using a master transmitter.

46. (ORIGINAL) The method of claim 35, further comprising transmitting position signals from a plurality of navigation beacons to said first and second network nodes.

47. (ORIGINAL) The method of claim 46, further comprising synchronizing said communication signals to said position signals.

48. (ORIGINAL) The method of claim 46, further comprising using said communication signals as ranging signals for other network nodes, said other network nodes to determine signal propagation time using signal time tagging.

49. (ORIGINAL) The method of claim 46, further comprising substituting said communication signals for said position signals in determining network node position information.

50. (ORIGINAL) The method of claim 49, further comprising using said communication signals to provide frequency and signal phase assistance in the determination of node position information.

51. (ORIGINAL) The method of claim 49, further comprising using, by said first network node, the frequency and signal phase assistance to detect attenuated positioning signals from said plurality of navigation beacons.